

IN THE CLAIMS:

Claim 1 (Original): A cutting insert comprising a multi-cornered base body including top and bottom surfaces interconnected by a peripheral surface; the peripheral surface including lateral surfaces and corner surfaces interconnecting the lateral surfaces; at least one of the top and bottom surfaces constituting a cutting surface; a cutting edge disposed between the cutting surface and the peripheral surface, the cutting edge including lateral cutting edge portions and corner cutting edge portions; the lateral cutting edge portions being disposed along respective lateral surfaces, and the corner cutting edge portions being disposed along respective corner surfaces; the lateral cutting edge portions being interconnected by the corner cutting edge portions; the cutting surface further including a plateau surface and a rake surface; the rake surface surrounding the plateau surface and situated between the plateau surface and the cutting edge; the rake surface including lateral rake surface portions and corner rake surface portions; the lateral rake surface portions extending along respective lateral cutting edge portions, and the corner rake surface portions extending along respective corner cutting edge portions; a step disposed between the plateau surface and the rake surface and extending upwardly with respect to the plateau surface; the step including lateral step portions and corner step portions; the lateral step portions extending along respective lateral rake surface portions, and the corner step portions extending along respective corner rake surface portions; wherein the corner step portions extend uninterruptedly along the respective corner rake surface portions; the step being of varying height, wherein a maximum height is disposed at the corner step portions.

Claim 2 (Original): The cutting insert according to claim 1 wherein at least two of the lateral cutting edge portions are disposed parallel to one another.

Claim 3 (Original): The cutting insert according to claim 1 wherein there are at least two pairs of lateral cutting edge portions, wherein the lateral cutting edge portions of each pair are parallel to one another.

Claim 4 (Original): The cutting insert according to claim 1 wherein the base body is of substantially rectangular shape as viewed perpendicularly to the cutting surface.

Claim 5 (Original): The cutting insert according to claim 4 wherein the substantially rectangular shape is a square shape.

Claim 6 (Original): The insert according to claim 1 wherein the step interconnects the plateau surface and the rake surface.

Claim 7 (Original): The cutting insert according to claim 1 wherein the step is arranged to direct chips away from the plateau surface.

Claim 8 (Original): The cutting insert according to claim 1 wherein the rake surface defines a positive rake angle.

Claim 9 (Original): The cutting insert according to claim 1 wherein the peripheral surface and the rake surface are oriented to define therebetween a wedge angle smaller than 90° for the cutting edge.

Claim 10 (Original): The cutting insert according to claim 1 wherein the lateral surfaces define clearance surfaces.

Claim 11 (Original): The cutting insert according to claim 1 wherein the lateral surfaces are oriented perpendicularly to an imaginary center plane passing through the insert between the top and bottom surfaces.

Claim 12 (Original): The cutting insert according to claim 1 wherein the lateral surfaces are of planar shape.

Claim 13 (Original): The cutting insert according to claim 1 wherein the peripheral surface includes a first portion defining a clearance surface of the cutting edge, and a second portion spaced from the cutting edge and forming an obtuse angle with the first portion.

Claim 14 (Original): The cutting insert according to claim 1 wherein a bore passes through the base body from the top surface to the bottom surface.

Claim 15 (Original): The cutting insert according to claim 1 wherein the step extends continuously along the entire rake surface.

Claim 16 (Original): The cutting insert according to claim 1 wherein a minimum height of the step occurs midway between adjacent corners.

Claim 17 (Original): The cutting insert according to claim 1 wherein a minimum height of the step occurs between adjacent corners and is situated closer to one of the corners.

Claim 18 (Original): The cutting insert according to claim 1 wherein each lateral step portion is linear as viewed perpendicularly to the cutting surface.

Claim 19 (Original): The cutting insert according to claim 1 wherein each lateral step portion is wavy as viewed perpendicularly to the cutting surface, wherein each lateral rake surface portion is of varying width.

Claim 20 (Original): The cutting insert according to claim 1 wherein a bore passes through the base body from one lateral surface to another lateral surface.

Claim 21 (Original): The cutting insert according to claim 1 wherein each of the top and bottom surfaces constitutes a cutting surface and is configured the same as the other.

Claim 22 (Original): The cutting insert according to claim 21 wherein the plateau surface includes at least one raised surface region defining a support surface for the insert.